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| 09/914,005 | 01/11/2002 | Bernd Krause | WEB 0044 PA | 7204 |

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| EXAMINER |
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MENON, KRISHNAN S

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| ART UNIT | PAPER NUMBER |
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1723

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,005

Applicant(s)

KRAUSE ET AL.

Examiner

Krishnan S. Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-36 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 16-36 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

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DETAILED ACTION

Claims 16-36 are pending after the amendment of 4/14/05.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 16 recites the negative limitation, "which do not include thermoplastic polyesters", has no support in the specification or claims as originally filed.

Claim Rejections - 35 USC § 102

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 16-36 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Klotzer et al (5,980,795).

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Claim 16, 29,35 and 36: Klotzer teaches a method of making a polymeric open pore membrane (col 3 lines 1-7) comprising providing a polymer (abstract), charging the polymer mix with a gas, foaming the polymer mix at temperature above glass transition, and cooling the polymer membrane after foaming (col 3 line 8 – col 4 line 41).

Re the limitation of the polymer ‘... containing a fluid that dissolves or swells the polymer from ... 0.05 to 4.5%...’, Klotzer teaches that adding solvents is disadvantageous because they need to be subsequently removed and small amounts remain. Applicants have recognized this fact in their arguments submitted on 11/8/04, which stated: *“Klötzer clearly desires a product that contains no solvents or other additives. See, e.g., col. 2, lines 35-42 and col. 5, lines 2-6, where Klötzer states that it is an advantage of Klötzer's process that there is no need for such additional substances which would then require removal “in an expensive manner.” Klötzer criticizes prior art processes that use solvents at col. 1, lines 60-67, continuing onto col. 2, lines 1-3. Thus, contrary to the Examiner's assertion, one skilled in the art would not be motivated to modify Klotzer's process to do what Klötzer expressly teaches not to do.”* [Italics added]. Also Klotzer col 2 lines 54-67 teaches the undesirability of adding foreign compounds in the mix. Thus, Klotzer teaches that addition of fluids that dissolve or swell the polymer is not necessary, which anticipates the claims. *(A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it. The question whether a reference “teaches away” from the invention is inapplicable to an anticipation analysis. Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998)).*

Re the polymers included or not included in the instant claims: In the light of applicant's specification and claim 29, the polymers included are polysulfone, polyethersulfone, polycarbonate, cellulose and its derivatives, and the mixtures of these polymers. Klotzer teaches generic membrane-forming polymers (implicit – abstract), amorphous polymers (col 3 line 10), polymer mixtures (col 3 line 20). Cellulosic, polypropylene, and other membrane-forming polymers are taught in the back-ground information. Even though the specific membrane-forming polymers as recited in claim 29 are not taught, cellulose derivatives, polysulfones are the most commonly used membrane-forming polymers. Therefore, the generic membrane-forming polymer would anticipate the claimed species, because they can be “at once envisaged” as the membrane-forming polymers (MPEP 2131.02).

Claims 17-20 and 28: these claims have limitations about the fluid (fluid infiltrated in to the polymer; added during polymer manufacture; comprises gas or liquid; and comprises an organic liquid), which are anticipated by the negative teaching of Klotzer as above.

Claims 23-25 and 31 add further limitations which Klotzer teaches as follows: The gas is charged after heating above the glass transition temperature and then extruded to foam the polymer as in claim 23 (Klotzer col 3 lines 8-15). The gas is carbon dioxide as in claims 24 and 25 (col 3 lines 1-5). Hollow fiber membrane as in claim 31 (Klotzer abstract).

Claims 21, 22, 26, 30, 32, 33 and 34 add further limitations, which Klotzer teaches, as follows: the polymer being charged with gas below the glass transition

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temperature and foamed above the glass transition temperature in claim 21 (col 4 lines 19-40), polymer charged after shaping gas at below the glass transition temperature in claim 22 (col 3 lines 51-57), and the polymer is saturated with gas in claim 26 (col 4 lines 29-31), claim 29 adds polymer material like polysulfone, cellulose etc (col 3 lines 64-67) and cellulose acetate (col 1 lines 39-41), hollow surface fiber membrane in claim 30, which is asymmetric in claim 32 and 33 (col 3 lines 50-63), and use as a filtration membrane as in claim 34 (col 4 lines 4-12; also intended use - *Ex parte Masham*).

Regarding claim 27, Klotzer does not specifically state temperature between 100 and 200 C. However, Klotzer teaches temperature above glass transition temperature, and therefore is inherent because glass transition temperature of polysulfone is about 190C: ref: www.boedeker.com/udel_p.htm.

2. Claim 35 is rejected under 35 U.S.C. 102(a/e) as being anticipated by Kabumoto et al (US 5,723,510).

Kabumoto teaches a method of making a polymeric membrane (see abstract) comprising providing amorphous polymers (polyester and polycarbonate blend polyesters are at least partly amorphous) (col 2 lines 8-14), a fluid that dissolves or swells the polymer in the range 0.05 to 4.5% (col 3 lines 50-57; col 4 lines 34-45 and 65-67), charging the polymer mix with a gas (col 3 lines 50-67), foaming the polymer mix at temperature above glass transition (240 C, which is above Tg of polyester - see examples) and cooling to stabilize (col 5 lines 19-27). Kabumoto does not explicitly teach the membrane as having open pore foam; however, open pore should be

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inherent, since the reference uses the same process as that of the applicant. Under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986)

Response to Arguments

Applicant's arguments filed 2/23/04 have been fully considered but they are not persuasive.

Arguments re Kabumoto that it does not teach or suggest the use of a solvent for the purpose of dissolving or swelling the polymer: acetone (solvent used) is absorbed by the polymer of Kabumoto. Therefore, applicant need to show that the solvent used by Kabumoto does not dissolve or swell the polymer used in Kabumoto, such as polyester and polycarbonate blended polyester. With re to the argument that there is no teaching of open pore: since the process is the same as that of the applicant, applicant need to show evidence that Kabumoto has no open pores.

Arguments re the Klotzer ref: these are addressed in the rejection. Re Klotzer not teaching hollow fibers, see the abstract.

Interview Summary

In an examiner-initiated interview, in order to make the application in condition for allowance, a suggestion was made to cancel the claims 23 and 30-34, and amend the independent claims 16, 29 and 35, and claim 19 as follows:

Amend independent claims by adding the limitations of "preparing a membrane from a solution of polymer in a solvent", and "evaporating the membrane to adjust the concentration of solvents to about 0.05 to about 4.5%"; and removing the negative limitation from claim 16.

Amend claim 19 by deleting "gas".

These amendments would overcome the Klotzer and Kabumoto references.

Applicant however requested an office action at this time.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan S. Menon
Patent Examiner
5/23/05


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